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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,422	07/02/2003	Lucy M. Bull	005950-790	5145

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EXAMINER	
GRIFFIN, WALTER DEAN	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,422	BULL ET AL.	
	Examiner	Art Unit	
	Walter D. Griffin	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *32 and 33* is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/27/2004 (2)*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Serial numbers are missing from the first paragraph of the specification.

Appropriate correction is required.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because the specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

The first page of the declaration identifies the application serial number as 10/613058. This serial number is incorrect. It should be 10/613422.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 is indefinite because the expression "the hydroprocessing reactor" lacks proper antecedent basis in claim 21. It appears as if claim 24 should depend on claim 23, not claim 21.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Cain et al. (US 2,877,257).

The Cain reference discloses a process for removing contaminants such as iron contaminants from a Fischer-Tropsch derived hydrocarbon stream produced using an iron catalyst. The process comprises passing the hydrocarbon stream to a treatment zone where the hydrocarbon stream contacts an aqueous acidic stream that is passed to the treatment zone (i.e., extraction column). The acidic stream should have a strength corresponding to concentrations of sulfuric acids ranging from about 1.5 to about 50 weight percent. These concentrations would necessarily be within the claimed ranges. The resulting mixture is then separated to recover an extracted hydrocarbon stream and a modified acidic stream. A soap phase is also separated. This would appear to be equivalent to the claimed third phase. The acidic stream can comprise an inorganic acid such as sulfuric acid or an organic acid such as acetic acid. The acidic stream used in the process may also comprise the aqueous phase produced in the F-T process. This produced aqueous phase contains acetic acid. Also, the examples in the Cain reference clearly are batch

treatments but it is also clear from Figure 2 that the process can be operated continuously. The extraction step is performed until essentially all the iron is removed from the hydrocarbon stream. This would necessarily disclose the limitations of claim 26. See column 1, lines 15-36; column 2, lines 48-51; column 3, lines 9-35 and 52-75; column 4, lines 1-43; column 7, lines 41-73; column 8, lines 1-24; the examples, and Figure 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cain et al. (US 2,877,257).

As discussed above, the Cain reference does not disclose the extraction conditions of claim 27.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process Cain by utilizing the conditions of claim 27 because one would utilize any conditions that result in the removal of the contaminants disclosed by Cain.

Claims 19, 20, 22, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain et al. (US 2,877,257) in view of Zhou (US 6,476,086 B1).

As discussed above, the Cain reference does not disclose filtering the hydrocarbon stream after the contacting step. The reference also does not disclose adding a surfactant to the hydrocarbon stream.

The Zhou reference discloses a process for separating contaminant particles from an F-T derived stream. The process comprises contacting the stream with a composition that comprises a surfactant. The reference also discloses that filtration techniques have been used to separate solid contaminants from F-T derived streams. See column 1, lines 29-40 and 65-67; column 2, lines 1-67; and column 3, lines 1-11.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Cain by filtering the product resulting from the extraction step as suggested by Zhou because filtering will remove any solid contaminants from the product.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Cain by adding a surfactant to the hydrocarbon stream as suggested by Zhou because the addition of a surfactant will enhance the separation process.

Claims 21, 23, 24, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain et al. (US 2,877,257) in view of Davis et al. (US 5,378,348).

As discussed above, the Cain reference does not disclose a distilling step and does not disclose a hydroprocessing step.

The Davis reference discloses that F-T products can be separated by fractionation (i.e., distillation) and that F-T products can be hydrotreated. See column 1, line 41 through column 2, line 8.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process the Cain by distilling the F-T product as suggested by Davis because desired fractions will be recovered.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Cain by hydroprocessing the F-T product as suggested by Davis because the qualities of the product will be improved.

Allowable Subject Matter

Claims 32 and 33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach or fairly suggest a method for removing contamination

from an F-T derived hydrocarbon stream as claimed in which an additive is added to the reactor to precipitate soluble contamination within the reactor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
November 16, 2004